

What is claimed is:

1. A computer-implemented method of processing a claim,  
the method comprising:

5 receiving information corresponding to a context free  
grammar expression of at least one provision governing claim  
adjudication;

receiving information corresponding to a claim;

10 based on the received information corresponding to the  
context free grammar expression of the at least one provision  
and the received information corresponding to the claim,  
determining whether the at least one provision applies to the  
claim.

15 2. The method of claim 1, wherein the context free grammar  
comprises a Backus-Naur format grammar.

3. The method of claim 1,  
wherein the context free grammar expression of the at least  
20 one provision includes expression of application criteria for  
the provision; and

wherein determining whether the at least one provision  
applies to the claim includes evaluating the expression using  
the received information corresponding to the claim.

25 4. The method of claim 1, further comprising automatically  
adjudicating the claim based on the at least one provision that  
applies to that claim.

30 5. The method of claim 4, wherein adjudicating comprises  
at least one of the following: determining an obligation owed to  
another party and determining an amount owed from another party.

6. The method of claim 4, further comprising logging identification of the provision determined to apply to the claim along with information corresponding to the adjudication.

5

7. The method of claim 6, further comprising generating a report by analyzing different adjudications of the provision.

8. The method of claim 1, wherein the received information  
10 corresponding to the context free grammar expression of the at least one provision comprises information determined by parsing the context free grammar expression.

9. The method of claim 1, wherein the received information  
15 corresponding to the context free grammar expression of the at least one provision includes information corresponding to a tree generated by parsing the context free grammar expression.

10. The method of claim 1, further comprising parsing the  
20 context free grammar expression.

11. The method of claim 10, further comprising generating a tree from the parsing of the context free grammar expression.

12. The method of claim 1, further comprising  
25 providing a graphical user interface for receiving user input identifying provision elements; and  
generating an expression of the provision in the context free grammar based on the received user input.

30

13. The method of claim 1, wherein receiving information corresponding to at least one provision comprises receiving information corresponding to more than one provision.

5 14. The method of claim 13, wherein determining whether the at least one provision applies to the claim comprises determining more than one provision applies.

10 15. The method of claim 13, wherein the more than one provisions comprise one or more provisions included in an agreement.

15 16. The method of claim 13, wherein the more than one provisions comprise provisions included in different agreements.

17. The method of claim 1, wherein the at least one provision comprises a provision included in a healthcare plan.

20 18. The method of claim 1, wherein the at least one provision comprises a provision included in a provider contract.

25 19. The method of claim 1, wherein the at least one provision comprises a provision corresponding to a policy regarding claim coverage.

20. The method of claim 1, wherein the at least one provision comprises a provision corresponding to a regulation.

30 21. The method of claim 1, wherein receiving information corresponding to a claim comprises receiving information over a network.

22. The method of claim 1, wherein the claim comprises a claim having at least one code corresponding to a healthcare service, procedure, or tangible article.

5        23. The method of claim 22, wherein the code comprises an AMA (American Medical Association) code.

24. The method of claim 1, further comprising extracting the information corresponding to the claim from information  
10 included on a health insurance claim form.

25. The method of claim 24, wherein the health insurance claim form comprises a HCFA form.

15        26. The method of claim 24, wherein the extracting comprises at least one of the following: extracting from a hardcopy of the form and extracting from an electronic data structure storing form data.

20        27. A computer-implemented method of processing a health insurance claim, the method comprising:

receiving information corresponding to a context free grammar expression of different provisions governing adjudication of the claim;

25        receiving information corresponding to a claim;

based on the received information corresponding to a context free grammar expression of the different provisions and the received information corresponding to the claim, determining at least one of the provisions that applies to the claim.

30

28. The method of claim 27, wherein the context free grammar comprises a Backus-Naur format grammar.

29. The method of claim 28, further comprising adjudicating the claim based on the at least one of the provisions that applies to the claim.

5

30. The method of claim 29, wherein adjudicating the claim includes accessing a history of previously adjudicated claims.

31. The method of claim 30, wherein accessing a history of previously adjudicated claims includes accessing a history of previously adjudicated claims for a single healthcare plan member.

32. The method of claim 27, wherein the provisions comprise provisions included in an healthcare plan.

33. The method of claim 32, wherein the provisions comprise provisions excluding coverage.

34. The method of claim 32, wherein the provisions comprise provisions limiting coverage.

35. The method of claim 32, wherein the provisions comprise provisions governing coverage deductibles.

36. The method of claim 32, wherein the provisions comprise provisions expressing calculation of benefits.

37. The method of claim 36, wherein the provisions expressing calculation of benefits comprise provisions referring to a provider contract.

38. The method of claim 27, wherein the provisions  
comprise provisions in a benefit schedule.

39. The method of claim 38, wherein the benefit schedule  
5 comprises at least one of the following provisions: a provision  
excluding coverage, a provision limiting coverage, a provision  
indicating a coverage deductible, and a provision expressing  
calculation of benefits.

10 40. The method of claim 38, wherein the provisions  
comprise different benefit schedules.

41. The method of claim 40, wherein the different benefit  
schedules comprise at least one of the following: a default  
15 benefit schedule, an in-network benefit schedule, and an out-of-  
network benefit schedule.

42. The method of claim 40, further comprising determining  
which, if any, of the different benefit schedules applies to the  
20 claim.

43. The method of claim 30, further comprising determining  
benefits owed to the healthcare plan member.

25 44. The method of claim 43, further comprising generating  
an explanation of benefits for the determined benefits.

45. The method of claim 32, wherein the provisions  
comprise provisions included in a provider contract describing  
30 reimbursement owed to a provider.

46. The method of claim 27, further comprising determining reimbursement owed to the provider for the claim.

47. The method of claim 46, further comprising generating  
5 an explanation of reimbursement for the determined reimbursement.

48. The method of claim 27, wherein the provisions  
comprise provisions corresponding to a healthcare company  
10 policy.

49. The method of claim 27, wherein the provisions  
comprise provisions corresponding to regulations.

50. The method of claim 27, wherein more than one of the  
15 provisions applies to the claim.

51. The method of claim 27, further comprising determining  
whether to review a claim by hand.

52. The method of claim 51, wherein determining comprises  
determining based on an estimation that a particular member can  
be correctly identified based on information corresponding to  
the claim.

53. The method of claim 52, wherein the estimation  
comprises an estimation based on a weighting of different member  
information included in the claim.

54. The method of claim 51, wherein determining comprises  
determining based on an estimation that a provider can be  
correctly identified.

55. The method of claim 54, wherein the estimation comprises an estimation based on a weighting of different provider information included in the claim.

5

56. The method of claim 27, wherein receiving information comprises receiving text of the context free grammar expression of the provisions.

10 57. The method of claim 56, further comprising parsing the received text of the context free grammar expression of the provisions.

15 58. The method of claim 57, further comprising generating information corresponding to a tree from the parsing.

20 59. The method of claim 27, wherein receiving information comprises receiving information produced by parsing the context free grammar expression of the provisions.

25 60. The method of claim 59, wherein receiving information comprises receiving information corresponding to a tree generated by parsing the context free grammar expression of the provisions.

25

61. The method of claim 27,

further comprising storing information corresponding to a tree based on a parsing of the context free grammar, each provision represented by one or more tree nodes; and

30 wherein determining whether a provision applies comprises traversing the tree to identify tree nodes corresponding to the claim.



63. The method of claim 61,  
wherein at least some tree nodes include terminal values of  
the context free grammar;

5 wherein the information corresponding to the claim  
comprises information including a terminal value of the context  
free grammar; and

wherein traversing the tree to identify tree nodes  
corresponding to the claim correspond identifying a terminal  
10 value included in the tree and included in the information  
corresponding the claim.

64. The method of claim 63,  
wherein traversing the tree comprises determining a sub-  
15 tree to traverse and indexing to the sub-tree.

65. The method of claim 64, wherein determining the sub-  
tree to traverse comprises determining a sub-tree corresponding  
to one of the following: an exclusions sub-tree, a limits sub-  
20 tree, a deductibles sub-tree, and a benefits sub-tree.

66. The method of claim 65, further comprising:  
if a provision in the exclusions sub-tree applies to the  
claim, not traversing the limits sub-tree, the deductibles sub-  
25 tree, or the benefits sub-tree for the claim.

67. The method of claim 64, wherein determining the sub-  
tree to traverse comprises determining a benefit schedule that  
applies to the claim.

68. The method of claim 27, wherein information corresponding to the claim comprises one or more healthcare codes.

5        69. The method of claim 68, further comprising bundling a first set of more than one healthcare code into a second set having fewer healthcare codes than the first set.

10       70. The method of claim 68, further comprising replacing a healthcare code with a different healthcare code.

15       71. The method of claim 27, further comprising:  
      providing a user interface that receives user input corresponding to provisions; and  
      based on the received user input, generated the context free grammar expression of the provisions.

20       72. The method of claim 27, further comprising determining if the provisions conflict at design time.

25       73. The method of claim 72, wherein determining if the provisions conflict comprises determining if the provisions reference the same healthcare code.

30       74. A computer-implemented method of representing healthcare insurance provisions, the method comprising:  
      receiving information corresponding to healthcare insurance provisions, the information being encoded in a context free grammar; and  
      parsing the receiving information.

75. The method of claim 74, wherein the context free grammar comprises a Backus-Naur form grammar.

76. The method of claim 74, further comprising generating  
5 a tree from the parsed received information.

77. The method of claim 74,  
further comprising receiving user input into a user  
interface; and  
10 generating a context free grammar expression of a provision  
from the received user input.

78. The method of claim 77, wherein the user interface  
comprises a user interface encoded in a structure generalized  
15 markup language.

79. The method of claim 78, further comprising  
transmitting the user interface over a network.

80. The method of claim 74, further comprising determining  
20 if the provisions conflict.

81. The method of claim 80, wherein determining if the  
provisions conflict comprises determining whether the provisions  
25 reference a same healthcare code.

82. A computer-implemented method of analyzing provisions  
included in an agreement, the provisions governing a  
determination of coverage for a claim, the method comprising:  
30 receiving identification of at least one provision that  
applies to a claim;

receiving identification of the application of the provision to the claim;

storing the received identification of the at least one provision and the received identification of the application of the provision; and

aggregating the received identification of the application of the provision with other identifications of the application of the provision for other claims.

83. The method of claim 82, further comprising determining the at least one provision that applies to the claim.

84. The method of claim 82, wherein the provisions comprise provisions encoded in a context free grammar.

85. The method of claim 82, wherein the claim comprises a claim for healthcare insurance.

86. The method of claim 82, further comprising determining the application of the provision to the claim.

87. The method of claim 86, wherein determining the application comprises determining an amount owed.

88. The method of claim 87, wherein determining an amount owed comprises determining an amount owed based on a provision limiting coverage.

89. The method of claim 87, wherein determining an amount owed comprises determining an amount owed based on a provision identifying a deductible.

90. The method of claim 89, wherein determining an amount owed comprises determining a benefit value.

91. A method of health care management, said method  
5 comprising:

providing context-free grammar production rules for expressing health care information; and

encoding health care information in accordance with the context-free grammar.

10

92. The method of claim 91, wherein the health care information comprises a coverage provision.